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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,560

09/27/2006

Mitsuharu Ozaki

AI-429NP

3553

23995

7590

02/13/2009

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EXAMINER

BINDA, GREGORY JOHN

ART UNIT

PAPER NUMBER

3679

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/594,560	Applicant(s) OZAKI, MITSU HARU	
	Examiner Greg Binda	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 6-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/27/06</u> . | 6) <input type="checkbox"/> Other: ____. |

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1. The Office action mailed February 10, 2009 indicated that no copy of the foreign reference JP 46-012082 in the information disclosure statement filed September 27, 2006 had been received. However, the reference had in fact been received and has since been considered by the examiner. The remainder of this action is a restatement of the pertinent portions of the previously mailed action.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

3. Claims 6-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on January 14, 2009.

Drawings

4. The drawings are objected to because they fail to show the limitations of claim 2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be

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renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The specification is objected to as failing to provide proper antecedent basis for the subject matter of claim 4.

Claim Rejections - 35 USC § 112

6. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear if the limitations in the last three lines of the claim pertain to the universal joint when it has a conically tapered ball receiving section or only when it has a curved ball receiving section.

Claim Rejections - 35 USC § 101

7. Claim 2 is rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility. Applicant has not disclosed or suggested any purpose for making a universal joint with a

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difference like that recited in claim 2. To the contrary, it appears counter intuitive to intentionally make the universal joint with such a difference because it would degrade the performance of the needle rollers

Claim Rejections - 35 USC § 102

8. Claims 1 & 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Cutting, US 1,943,814. Fig. 3 shows a universal joint comprising a cross spider 3a (page 2, line 137), comprising:

- a trunnion 3 (page 2, line 144) provided in the cross spider;

- a plurality of needle rollers 5a arranged in an annular shape so as to surround an outer peripheral surface of the trunnion; and

- an outer ring 6a held in a fitting hole of a yoke 1 (page 2, line 29) and supporting the trunnion so as to be rotatable with the needle rollers sandwiched therebetween, the outer ring comprising a cylindrical main body fitted in the fitting hole of the yoke and a closed end for closing one end of the main body,

- the trunnion comprising an end surface having a circular ball holding hole (see Fig. 3) formed thereon,

- a ball 11 (page 2, line 70) being held in the ball holding hole,

- a ball receiving section 10a for elastically receiving the ball held in the ball holding hole being provided at the closed end of the outer ring, the ball receiving section comprising a concavely-curved surface (see “slight depression” at page 2, lines 69 & 70), and a radius of curvature of the concavely-curved surface being larger than a radius of the ball hole.

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9. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown, US

2,063,787. Fig. 12 shows a universal joint comprising a cross spider 20c, comprising:

- a trunnion 20c provided in the cross spider;

- a plurality of needle rollers 16 arranged in an annular shape so as to surround an outer peripheral surface of the trunnion; and

- an outer ring 11 held in a fitting hole of a yoke and supporting the trunnion so as to be rotatable with the needle rollers sandwiched therebetween, the outer ring comprising a cylindrical main body fitted in the fitting hole of the yoke and a closed end for closing one end of the main body,

- the trunnion comprising an end surface having a circular ball holding hole 25 formed thereon,

- a ball 24 being held in the ball holding hole,

- a ball receiving section 23 for elastically receiving the ball held in the ball holding hole being provided at the closed end of the outer ring, the ball receiving section comprising a concavely-curved surface, and a radius of curvature of the concavely-curved surface being larger than a radius of the ball hole (see “slight depression” at page 2, lines 69 & 70).

Fig. 12 shows the difference between the diameter of the ring 11 and the trunnion 20c is larger than two times the diameter of the needle roller 16, particularly when measured at the end of the roller.

Claim Rejections - 35 USC § 103

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cutting. In Fig. 3 Cutting shows a universal joint comprising: an outer ring 6a, a trunnion 3a and a needle roller 5a, but does not expressly disclose the difference between an inner diameter of the outer ring and an outer diameter of the trunnion is larger than two times a diameter of the needle roller. However, applicant has not disclosed that having the diameters of the outer ring, trunnion and needle roller related in the is way solves any stated problem or is for any particular purpose. Moreover, it appears that the universal joint would perform equally well, if not better, with the difference between the inner diameter of the outer ring and the outer diameter of the trunnion substantially equal to two times the diameter of the needle roller, as shown in applicant's own drawings. Accordingly, the use of a difference between an inner diameter of the outer ring and an outer diameter of the trunnion that is larger than two times a diameter of the needle roller is deemed to be a design consideration which fails to patentably distinguish over the prior art to Cutting.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (571) 272-7077. The examiner can normally be reached on M-F 10:30 am to 8:00 pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Greg Binda/
Primary Examiner, Art Unit 3679